

Java Compiler with Encryption and Decryption

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Abstract:

The main aim of this project we can easily to write a java program and compile it and debug in on-line. The client machine doesn't having java development kit .The client machine only connected to the server. The server having java compiler .so server executes the java code and produce the error message to the appropriate client machine.In this project is also creating a security editor. This editor performs Encrypt and decrypts the file. Encryption and decryption process perform using RSA Algorithms. There is lot of security algorithms are there, but RSA algorithm is very efficient to encrypt and decrypt the file

Keywords — Compiler, JDK, Encryption, Decryption, Internet, Server,file.

I. INTRODUCTION

As it is a competitive world and very fast world, everything in the universes is to be internet. In this internet world all the things are on-line. So we created software called On-line java compiler with security editor.

In this project is also creating a security editor. This editor performs Encrypt and decrypts the file. Encryption and decryption process perform using RSA Algorithms. There is lot of security algorithms are there, but RSA algorithm is very efficient to encrypt and decrypt the file.

In this project is used to view all type of java API .It is very useful for writing the java program easily, for example if any error in the format of API means we can able to view API throw this modules.

A. Vision

This project is developed for compiling the java programs on-line. The java compiler with security is a web based application that can be accessed throughout the world.

B. Scope

This system can be used for compiling java programs on-line, also save that file on the web, we

can access the java API classes and we can also perform encryption and decryption operations

C. Overview

Here user sign up into the application, once he is registered then he can directly log into the application with proper user id and password.

II. MODULES

A. Java File Creation

In this module we can create a java file and save it in our local file system. Any client can create a java file using this web page. The client can create as many java files and save it. The web page also used as an editor for the clients to create java files. Using this client can easily create a java file. It is also user friendly for the clients.

B. Java File Compilation

In this module, we can compile any java application that we are creating. The client machine is not required to have the JDK installed on their machines. The client can use this web application and he can compile the java file. The client machines java application is compiled with the help of the JDK installed in the server machine. The JDK installed in the server machine does the compilation for all the java programs available in the server machines.

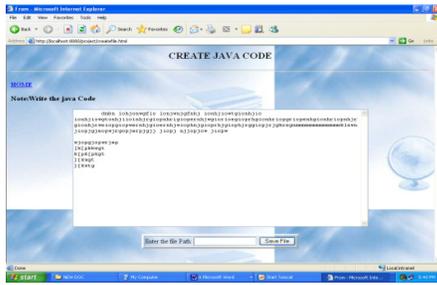


Fig 1. File Creation



Fig 4. Java File API Information

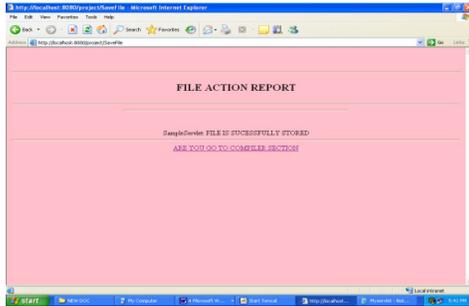


Fig 2 File Action Report



Fig. 3 Java File Compilation

C. Java API Information

In this module, we can know the information of the entire API (Application programming Interface) available in java. Using this module we can know all the methods that are available in a class or an interface. The application programming interface is a collection of classes and interfaces available in a package.

It is not possible for a programmer to remember all the methods available in a class or an interface available in a package so at that time the programmer can make use of this java API.

D. Encryption

In this module, we are doing encryption using RSA (Ron Rivest, Adi Shamir and Len Adleman) Algorithm. We are encrypting the file with the help of RSA Algorithm. For encrypting a file, we need to get two prime number from the user. With the help of these prime numbers we are encrypting the file.

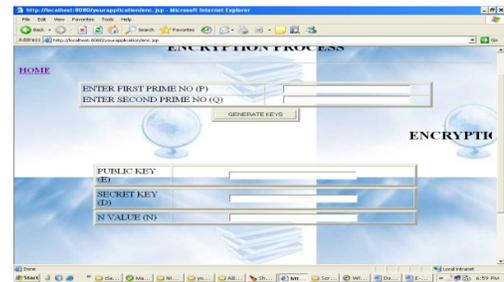


Fig5. Encryption Process

Now the actual text of the file is converted to a cipher text. So it will not be visible for the user. It will not be in the known format.

E. Decryption

In this module, we are doing decryption using RSA (Ron Rivest, Adi Shamir and Len Adleman) Algorithm. We are decrypting the file with the help of RSA Algorithm. For decrypting a file, we need to decrypt it by giving the private keys. With the help of these private keys we are decrypting the file. Now the cipher text of the file is converted to the actual text. So it will visible for the user. It will be in known formats.



Fig 6. Decryption Process

III SYSTEM ANALYSIS

A. Existing System

The existing system is the manual system. The manual system is prone to error. It is time consuming. It is very difficult for a person to produce the report. There are chances for changing the scheme report and do malpractice. This system involves a lot of manual entries with the applications to perform the desired task. Following are the limitations

- Information retrieval is a very big process.
- Lack of organization of the files may rise to information loss due to accidental deletion of files.
- No security because the files are visible to the users.
- Report generation will be a big task.

B. Proposed System

The proposed system is designed to eliminate the problems in the existing system. The main aim of this project we can easily to write a java program and compile it and debug in on-line. The client machine doesn't having java development kit .The client machine only connected to the server. The server having java compiler .so server executes the java code and produce the error message to the appropriate client machine.

Following are the advantage over existing system.

- We can compile and run our java program online.
- On-line access is provided for the saved files

- No need to install jdk in our own system

IV. SYSTEM DESIGN

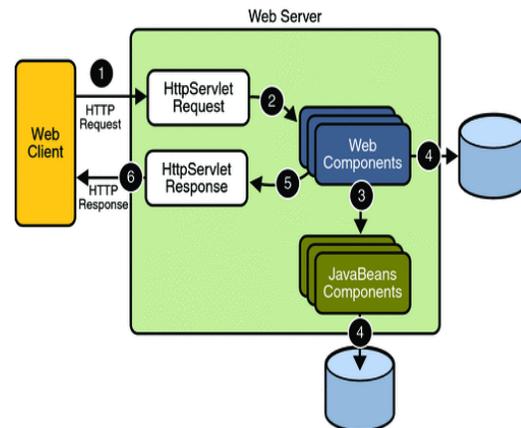


Fig.8 Architecture diagram

V. LIMITATIONS AND SCOPE FOR FUTURE ENHANCEMENTS

A. Limitations of the system

- Only the authorized users can access the system.
- System works in all platforms and its compatible environments.
- Advanced techniques are not used to check the authorization.

B. Future Enhancements

It is not possible to develop a system that makes all the requirements of the user. User requirements keep changing as the system is being used. Some of the future enhancements that can be done to this system are:

- As the technology emerges, it is possible to upgrade the system and can be adaptable to desired environment.
- Because it is based on object-oriented design, any further changes can be easily adaptable.
- Based on the future security issues, security can be improved using emerging technologies.
- Attendance module can be added
- Visual can be added to our system

III. CONCLUSIONS

The java compiler with encryption and decryption is a web-based application for primarily providing online java compiler for authorized users, so they can compile and generate the .class file from any remote location. We encrypt and decrypt the code.

This application software has been computed successfully. It is user friendly, and has required options, which can be utilized by the user to perform the desired operations.

The software is developed using Java as front end and Oracle as back end in Windows environment. The goals that are achieved by the software are.

- Instant access.
- Improved productivity.
- Optimum utilization of resources.
- Simplification of the operations.
- Less processing time and getting required information.
- User friendly.
- Portable and flexible for further enhancement

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